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EXAMINER

SON, LINH L D

ART UNIT PAPER NUMBER

2135

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/810,313

Applicant(s)

ADJAOUTE, AKLI

Examiner

Linh LD Son

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This Office Action is responding to the RCE received on 12/22/2005.
2. Claims 1-3, and 5-14 are pending.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-7, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perfit et al, US Patent No. 6535728, hereinafter "Perfit", in view of Simoudis et al, US Patent No. 5692107, hereinafter "Simoudis".

5. As per claim 1:

Perfit discloses "A method for detecting and preventing electronic fraud in electronic transactions between a client and a user, the method comprising: generating a fraud detection and prevention model software component for using a plurality of intelligent technologies to determine whether information sent by the user to the client associated

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with a new electronic transaction is fraudulent” in (Col 3 lines 30-40), “wherein the model software component is trained on a database of past electronic transactions provided by the client; querying the model software component with a current electronic transaction to determine whether information sent by the user to the client associated with the current electronic transaction is fraudulent; and updating the model software component with the current electronic transaction” in (Col 9 lines 10-35). Perfit also teaches the prevention model software component as a Fuzzy Matching Process in (Col 12 lines 23-55).

However, Perfit is silent on “wherein the fraud detection and prevention model software component comprises a plurality of sub-models, each sub-model implementing an intelligent technology to determine whether the electronic transaction is fraudulent, wherein the plurality of sub-models respectively implement neural network technology, rule-based reasoning technology, data mining technology, and case-based reasoning technology”, and “wherein generating the fraud detection and prevention model software component comprises using a model training interface to select which sub-models are to be included in the fraud detection and prevention model software component”.

Nevertheless, Simoudis discloses the “Method for Generating Predictive Models in a Computer System” invention, which includes “the plurality of sub-models respectively implement neural network technology, rule-based reasoning technology, data mining technology, and case-based reasoning technology” in (Col 3 lines 20-25, Col 3 lines 26-33, Col 3 lines 40-47, Col 4 lines 43-48, and Col 5 lines 18-45). Simoudis also

discloses a model training interface in Col 3 lines 5-15 for user to generate the trained model. Therefore, it would have been obvious at the time of the invention was made for one having ordinary skill in the art to modify Perfit's invention to incorporate the sub-models in Simoudis's invention to provide a strong and detail analyzation and detection system to prevent fraudulent.

6. As per claim 2:

Perfit discloses "The method of claim 1, wherein the electronic transactions comprise web-based transactions and transactions conducted over wireless networks with the use of cellular phones" in (Col 1 lines 35-43, and Col 6 lines 34-48).

7. As per claim 3:

Simoudis discloses "the system of claims 1, wherein the plurality of software routines for training each one of the sub-models comprises one or more of the following: a neural network training routine; a data mining training routine; a multi-agent training routine; a case-based reasoning training routine; a rule-based reasoning training routine; a fuzzy logic training routine; a constraint programming training routine; and a genetic algorithm training routine" in (Col 3 lines 20-45).

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8. As per claim 6:

Simoudis discloses “the training the model software component on a database of past electronic transactions provided by the client comprises training the plurality of sub-model software components” in (Col 3 lines 20-25, Col 3 lines 26-33, Col 3 lines 40-47, Col 4 lines 43-48, and Col 5 lines 18-45).

9. As per claim 7:

Simoudis discloses “The method of claim 1, wherein the database of past electronic transactions comprises a plurality of tables, wherein each table comprises a plurality of data fields and data records associated with a plurality of electronic transactions” in (Col 4 lines 15-25).

10. As per claim 12:

Perfit discloses “the method of claim 9, wherein combining the plurality of sub-model decisions to generate the output decision comprises providing a plurality of meta-rules to determine how the sub-model decisions are combined to generate the output decision” in (Col 4 lines 50-58).

11. Claims 5, 8-9, and 13-14, are rejected under 35 U.S.C. 103(a) as being unpatentable over Perfit, in view of Simoudis, and further in view of Agrafiotis et

al, US Patent No. 6453246B1, hereinafter "Agrafiotis" (Cited in 892 dated 11/23/04).

12. As per claims 5 and 9:

Perfit and Simoudis disclose "the method of claim 4". However, Perfit and Simoudis do not disclose "wherein the fraud detection and prevention model software component comprises a binary file for implementing the plurality of sub-model software components". Nevertheless, Agrafiotis does include the model software component comprises binary files to evaluate the data (Col 12 lines 54-57, and Col 13 lines 23-26). It would have been obvious at the time of the invention was made for one having ordinary skill in the art to implement the binary files as the model software component to enable a solution to evaluate a complex environment where the multidimensional variables is necessary to describe it (Col 7 line 60 to Col 8 line 2).

13. As per claim 8:

Perfit and Simoudis disclose "the method of claim 1, wherein querying the model software component with a current electronic transaction to determine whether information sent by the user to the client associated with the current electronic transaction is fraudulent comprises providing the information as input to the trained data file and running the trained data file to generate a output decision on whether the electronic transaction is fraudulent or not" in (Col 3 lines 20-25, Col 3 lines 26-33, Col 3

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lines 40-47, Col 4 lines 43-48, and Col 5 lines 18-45). However, Perfit and Simoudis do not teach “providing the information as input to the binary file and running the binary file to generate an output decision on whether the electronic transaction is fraudulent or not”. Nevertheless, the implementation of binary file to generate an binary output decision on whether the electronic transaction is fraudulent or not is taught in Agrafiotis (Col 13 lines 20-63). It would have been obvious at the time the invention was made for one having ordinary skill in the art to implement the binary file for fraudulent evaluation. It would obvious to implement the binary file, because in multidimensional space data evaluation it is more comprehensive to evaluate the data in numerical format using mathematical equations (Col 7 line 60 to Col 8 line 2).

14. As per claim 13:

Agrafiotis teaches “updating the model software component with the current electronic transaction comprises updating the binary file without retraining the model” in (Col 15 lines 55-65).

15. As per claim 14:

Perfit and Simoudis disclose “the method of claim 1, wherein updating the model software component with the current electronic transaction further comprises updating the database with the current electronic transaction and retraining the model to generate a new ASCII file” in (Simoudis, Col 6 lines 14-24). However, Perfit and



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Simoudis do not teaches "the model represents in binary file". Nevertheless, since the claimed invention is directed to a complex and multi-dimensional environment, the binary file implementation must be utilized to best server the evaluation environment. This teaching is taught clearly by Agrafiotis (Col 13 lines 20-63). It would have been obvious at the time of the invention was made for one having ordinary skill in the art to incorporate the binary file format to best server a complex evaluation problem.

***Allowable Subject Matter***

16. Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. As per claim 10:

Perfit discloses "the method of claim 9, wherein combining the plurality of sub-model decisions to generate the output decision comprises assigning a vote to each sub-model decision and generating the output decision based on the majority of votes determining whether the electronic transaction is fraudulent or not" in (Col 28 line 16 to Col 31 line 23).

18. As per claim 11:

Perfit discloses "the method of claim 9, wherein combining the plurality of sub-model decisions to generate the output decision comprises assigning a weighted vote to each one of the sub-models, wherein the weighted vote is assigned to prioritize the sub-model decisions, and generating the output decision based on the highest number of votes determining whether the electronic transaction is fraudulent or not" in (Col 28 line 16 to Col 31 line 23).

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh LD Son whose telephone number is 571-272-3856. The examiner can normally be reached on 9-6 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linh LD Son  
Examiner  
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A handwritten signature in black ink, appearing to read 'Kim Vu', with a stylized, flowing script.

KIMI VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100